CUMULATIVE INDEXES

CONTRIBUTING AUTHORS VOLUMES 11-15

A	F	M *
Aannestad, P. A., 11:309-62	Fowler, W. A., 13:69-112	Manchester, R. N., 15:19-44
Aarseth, S. J., 13:1-21		Marsden, B. G., 12:1-21
Acton, L. W., 12:359-81	G	Mihalas, D., 11:187-218
Allen, R. J., 14:417-45		Miller, J. S., 12:331-58
Arnett, W. D., 11:73-94	Gault, D. E., 15:97-126	Morgan, W. W., 11:29-50
Athay, R. G., 11:187-218	Gilman, P. A., 12:47-70	37
Audouze, J., 14:43-79	Ginzburg, V. L., 13:511-35	N
	Gorenstein, P., 14:373-416	Mahalla B W 15-107-924
B	Gott, J. R. III, 15:235-66	Nicholls, R. W., 15:197-234
D. 1. 11 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Grasdalen, G. L., 13:187-	Novikov, I. D., 11:387-412
Bahcall, N. A., 15:505-40	216	Noyes, R. W., 15:363-87
Barkat, Z., 13:45-68	Gursky, H., 15:541-68	0
Barshay, S. S., 14:81-94		0
Blumenthal, G. R., 12:23-46	EI	O'Dell, S. L., 14:173-95
Burns, J. A., 15:97-126	Hammicon F D 11-155-96	Oke, J. B., 12:315-29
Burrus, C. A., 11:51-72	Harrison, E. R., 11:155-86	Oort, J. H., 15:295-362
Burton, W. B., 14:275-306	Heiles, C., 14:1-22 Howard, R., 15:153-73	Öpik, E. J., 15:1-17
C	Huebner, W. F., 14:143-72	Opin, 11. 0., 10.1 11
C	Huebher, W. F., 14:143-12	P
Canuto, V., 12:167-214;	I	
13:335-80	1	Palmer, P., 12:279-313
Carson, T. R., 14:95-117	Iben, I. Jr., 12:215-56	Parker, E. N., 15:45-68
Cassen, P., 15:97-126		Peale, S. J., 14:215-46
Caughlan, G. R., 13:69-112	J	Peimbert, M., 13:113-31
Chaffee, F. H. Jr., 14:23-		Penzias, A. A., 11:51-72
42	Jauncey, D. L., 13:23-44	Peterson, L. E., 13:423-509
Chevalier, R. A., 15:175-96	Jenkins, E. B., 13:133-64	Pikel'ner, S. B., 12:113-33
Code, A. D., 11:239-68	Jokipii, J. R., 11:1-28	Press, W. H., 13:381-422
Coroniti, F. V., 15:389-436		Preston, G. W., 12:257-77
Counselman, C. C. III, 14:	K	Purcell, E. M., 11:309-62
197-214		
Cox, J. P., 14:247-73	Kaplan, S. A., 12:113-33	п
Culhane, J. L., 12:359-81	Keenan, P. C., 11:29-50	
	Kennel, C. F., 15:389-436	Reeves, H., 12:437-69
D	Klepczynski, W. J., 11:135-	Rickett, B. J., 15:479-504
	54	Robinson, E. L., 14:119-42
De Young, D. S., 14:447-74		Robinson, L. B., 13:165-85
Duncombe, R. L., 11:135-	L	
54		S
	Larson, R. B., 11:219-38	
E	Lecar, M., 13:1-21	Salpeter, E. E., 15:267-93
	Leibacher, J., 12:407-35	Schramm, D. N., 12:383-
Eardley, D. M., 13:381-	Lewis, J. S., 14:81-94	406
422	Litvak, M. M., 12:97-112	Schroeder, D. J., 14:23-42
El-Baz, F., 12:135-65	Livingston, W. C., 11:95-114	Schwartz, D. A., 15:541-68

600 CONTRIBUTING AUTHORS

Toomre, A., 15:437-78 Searle, L., 12:315-29 34 Seidelmann, P. K., 11:135-Tsytovich, V. N., 11:363-86 Weedman, D. W., 15:69-95 Tucker, W. H., 12:23-46; Wentzel, D. G., 12:71-96 54 Whipple, F. L., 14:143-72 Silk, J., 11:269-308 14:373-416 Spitzer, L. Jr., 13:133-64 Williams, R. E., 14:307-Steigman, G., 14:339-72 Withbroe, G. L., 15:363-Stein, R. F., 12:407-35 van de Kamp, P., 13:295-Stein, W. A., 14:173-95 87 Strittmatter, P. A., 14:173-339 95, 307-38 van den Bergh, S., 13:217-E Strom, K. M., 13:187-216 55 van der Kruit, P. C., 14:417- Zel'dovich, Ya. B., 11:387-Strom, R. G., 15:97-126 Strom, S. E., 13:187-216 45 412 Verschuur, G. L., 13:257-Zhelezvnakov, V. V., 13:511-93 35 Zimmerman, B. A., 13:69-337 Taylor, J. H., 15:19-44 Thomas, H.-C., 15:127-51 Zuckerman, B., 12:279-Tinsley, B. M., 14:43-79 Wallerstein, G., 11:115-313

CHAPTER TITLES VOLUMES 11-15

PREFATORY CHAPTER
About Dogma in Science and Other Recollections of an Astronomer
SOLAR SYSTEM ASTROPHYSICS
Comets
Surface Geology of the Moon
Chemistry of Primitive Solar Material

Physical Processes in Comets

Mercury

Jupiter's Magnetosphere
SOLAR PHYSICS
Turbulence and Scintillations in the Interplanetary Plasma
Solar Rotation
The Solar X-Ray Spectrum
Waves in the Solar Attmosphere
The Origin of Solar Activity
Largo-Scale Solar Magnetic Fields
Mass and Energy Flow in the Solar

Chromosphere and Corona STELLAR PHYSICS E. J. Öpik 15:1-17 B. G. Marsden 12:1-21 F. El-Baz 12:135-65 S. S. Barshay, J. S. Lewis 14:81-94 F. L. Whipple, W. F. Huebner 14:143-72 D. E. Gault, J. A. Burns, P. Cassen, R. G. Strom 15:97-126 C. F. Kennel, F. V. Coroniti 15:389-436 J. R. Jokipii 11:1-28 P. A. Gilman 12:47-70 J. L. Culhane, L. W. Acton 12:359-81 R. F. Stein, J. Leibacher 12:407-35 E. N. Parker 15:45-68 R. Howard 15:153-73

G. L. Withbroe, R. W. Noyes 15:363-87

Spectral Classification	W. W. Morgan, P. C. Keenan	
Explosive Nucleosynthesis in Stars	W. D. Arnett	11:73-94
The Physical Properties of Carbon Stars The Effects of Departures from LTE in	G. Wallerstein	11:115-34
Stellar Spectra Post Main Sequence Evolution of Single	D. Mihalas, R. G. Athay	11:187-218
Stars	I. Iben Jr.	12:215-56
The Chemically Peculiar Stars of the Upper		
Main Sequence	G. W. Preston	12:257-77
The Spectra of Supernovae	J. B. Oke, L. Searle	12:315-29
Planetary Nebulae The Structure of Cataclysmic Variables	J. S. Miller E. L. Robinson	12:331-58 14:119-42
Nonradial Oscillations of Stars: Theories	E. L. Addition	141113-42
and Observations	J. P. Cox	14:247-73
Recent Observations of Pulsars	J. H. Taylor, R. N.	
	Manchester	15:19-44
DYNAMICAL ASTRONOMY		
Dynamical Astronomy of the Solar System	R. L. Duncombe, P. K. Seidelmann, W. J.	
	Klepczynski	11:135-54
Computer Simulations of Stellar Systems	S. J. Aarseth, M. Lecar	13:1-21
Unseen Astrometric Companions of Stars Radio Astrometry	P. van de Kamp C. C. Counselman III	13:295-333
Orbital Resonances in the Solar System	S. J. Peale	14:197-214 14:215-46
Theories of Spiral Structure	A. Toomre	15:437-78
INTERSTELLAR MEDIUM		
Processes in Collapsing Interstellar Clouds	R. B. Larson	11:219-38
Interstellar Grains	P. A. Aannestad, E. M.	
	Purcell	11:309-62
Cosmic-Ray Propagation in the Galaxy: Collective Effects	D. G. Wenterl	10 71 00
Coherent Molecular Radiation	D. G. Wentzel M. M. Litvak	12:71-96 12:97-112
Large-Scale Dynamics of the Interstellar Medium	S. A. Kaplan, S. B. Pikel'ner	
Radio Radiation from Interstellar	5. A. Rapian, 5. B. Fikei her	12:113-33
Molecules	B. Zuckerman, P. Palmer	12:279-313
Ultraviolet Studies of the Interstellar Gas Young Stellar Objects and Dark Interstellar	L. Spitzer Jr., E. B. Jenkins	13:133-64
Clouds	S. E. Strom, K. M. Strom,	
	G. L. Grasdalen	13:187-216
The Interstellar Magnetic Field The Interaction of Supernovae with the	C. Heiles	14:1-22
Interstellar Medium	R. A. Chevalier	15:175-96
Formation and Destruction of Dust Grains Interstellar Scattering and Scintillation of	E. E. Salpeter	15:267-93
Radio Waves SMALL STELLAR SYSTEMS	B. J. Rickett	15:479-504
Consequences of Mass Transfer in Close		
Binary Systems	HC. Thomas	15:127-51
THE GALAXY		
Nucleo-Cosmochronology	D. N. Schramm	12:383-406
On the Origin of the Light Elements	H. Reeves	12:437-69
High-Velocity Neutral Hydrogen	G. L. Verschuur	13:257-93
The Morphology of Hydrogen and of Other		
Tracers in the Galaxy	W. B. Burton	14:275-306
The Galactic Center EXTRAGALACTIC ASTRONOMY	J. H. Oort	15:295-362
Chemical Composition of Extragalactic		
Gaseous Nebulae	M. Peimbert	13:113-31
Stellar Populations in Galaxies	S. van den Bergh	13:217-55

CHAPTER TITLES 602

Stellar Opacity Transition Probability Data for Molecules of

Astrophysical Interest

Chemical Evolution of Galaxies The Radio Continuum Morphology of Spiral	J. Audouze, B. M. Tinsley	14:43-79
Galaxies	P. C. van der Kruit, R. J.	
	Allen	14:417-45
Extended Extragalactic Radio Sources	D. S. De Young	14:447-74
Seyfert Galaxies	D. W. Weedman	15:69-95
Clusters of Galaxies	N. A. Bahcall	15:505-40
OBSERVATIONAL PHENOMENA		
Diffuse X and Gamma Radiation	J. Silk	11:269-308
Compact X-ray Sources	G. R. Blumenthal, W. H. Tucker	12:23-46
The BL Lacertae Objects	W. A. Stein, S. L. O'Dell, P. A. Strittmatter	14:173-95
The Line Spectra of Quasi-Stellar Objects	P. A. Strittmatter, R. E.	
	Williams	14:307-38
Soft X-Ray Sources	P. Gorenstein, W. H. Tucker	14:373-416
Extragalactic X-Ray Sources	H. Gursky, D. A. Schwartz	15:541-68
GENERAL RELATIVITY AND COSMOLOGY	is outony, by its bounded	20,012 00
Standard Model of the Early Universe	E. R. Harrison	11:155-86
Physical Processes Near Cosmological	23, 23, 226, 23001	111100 00
Singularities	I. D. Novikov, Ya. B.	
	Zel'dovich	11:387-412
Radio Surveys and Source Counts	D. L. Jauncey	13:23-44
Astrophysical Processes Near Black Holes	D. M. Eardley, W. H. Press	13:381-422
Observational Tests of Antimatter	are that area energy the are a record	201007 100
Cosmologies	G. Steigman	14:339-72
Recent Theories of Galaxy Formation	J. R. Gott III	15:235-66
INSTRUMENTATION AND TECHNIQUES		
Millimeter-Wavelength Radio-Astronomy		
Techniques	A. A. Penzias, C. A. Burrus	11:51-72
Image-Tube Systems	W. C. Livingston	11:95-144
New Generation Optical Telescope Systems On-Line Computers for Telescope Control	A. D. Code	11:239-68
and Data Handling	L. B. Robinson	13:165-85
Instrumental Technique in X-Ray Astronomy Astronomical Applications of Echelle	L. E. Peterson	13:423-509
Spectroscopy	F. H. Chaffee Jr., D. J.	
-6	Schroeder	14:23-42
PHYSICAL PROCESSES		11100 10
Interaction of Fast Particles with Waves		
in Cosmic Magnetoactive Plasma	V. N. Tsytovich	11:363-86
Equation of State at Ultrahigh Densities, 1	V. Canuto	12:167-214
Neutrino Processes in Stellar Interiors	Z. Barkat	13:45-68
Thermonuclear Reaction Rates, II	W. A. Fowler, G. R. Caughlan	
and the same of th	B. A. Zimmerman	13:69-112
Equation of State at Ultrahigh Densities, II	V. Canuto	13:335-80
On the Pulsar Emission Mechanisms	V. L. Ginzburg, V. V. Zheleznyakov	13:511-35
Stellar Opacity	T. R. Carson	14:95~117

T. R. Carson

R. W. Nicholls

14:95-117

15:197-234

